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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/507,416

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Marie-Claire Grosjean-Cournoyer

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09/04/2008

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EXAMINER

JOIKE, MICHELE K

ART UNIT

PAPER NUMBER

1636

MAIL DATE

DELIVERY MODE

09/04/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/507,416	Applicant(s) GROSJEAN-COURNOYER ET AL.	
	Examiner MICHELE K. JOIKE	Art Unit 1636	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 July 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 and 19-29 is/are pending in the application.
- 4a) Of the above claim(s) 1-13 and 21-29 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 17 and 19 is/are allowed.
- 6) ☒ Claim(s) 14-16 and 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Receipt is acknowledged of a reply to the previous Office Action, filed July 17, 2008. Claims 1-7 and 19-29 are pending, with claims 14-17 and 19-20 under consideration in the instant application.

Any rejection of record in the previous Office Action, mailed April 17, 2008 that is not addressed in this action has been withdrawn. Because this Office Action re-introduces rejections not set forth in the previous Office Action, and are not necessitated by amendment, this Office Action is **Non-Final**.

Oath/Declaration

The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:
Non-initialed and/or non-dated alterations have been made to the oath or declaration. See 37 CFR 1.52(c).

Applicant has requested that the Office hold this objection in abeyance until allowable subject matter is indicated.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

Art Unit: 1636

the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 14-16 stand rejected under 35 U.S.C. 103(a) as being obvious over US 2003/0129733 in view of US 6, 617,163.

Response to Arguments Concerning Claim Rejections – 35 USC § 103 (a)

Applicant's arguments filed July 17, 2008 have been fully considered but they are not persuasive.

The following grounds of traversal are presented:

Applicants argue that there is no reasonable expectation of success because although Applicant Villalba's own reference states that the impala 160 transposon "will be very useful for insertional mutagenesis in fungi", it also teaches that impala 160 induced mutagenesis may not be random in *M. grisea*. Applicants also cite reference Firon et al, however, Firon et al was published after Applicant's date of invention and priority date, and therefore, one of skill in the art would not have been aware of the teachings of Firon et al at the time of invention. Li Destri Nicosia et al teach that impala induced mutagenesis is non-random and appears to be context dependent. With the combination of all of these references, results would have unexpected and unpredictable.

Furthermore, these references teach away from the claimed invention. According to the state of the art at the time of invention: "[a] random insertional mutagenesis tool should combine: ease in the production of insertional mutants,

Art Unit: 1636

absence of rearrangements along the genome, and a random distribution of insertions along the genome. See Firon *et al* at 253 (emphasis added). Prior art shows that at least the last trait is lacking for *impala* 160 transposons in filamentous fungi, such as *A. fumigatus*, and, as a result, teaches away from its use in the currently claimed invention.

Applicants also argue secondary considerations. Use of the *impala* 160 transposon provides significant benefits over teachings of Denning *et al*. Protocols used prior to Applicant's invention generated a significant number of deletions and genomic rearrangements. These detrimental characteristics will impede use in high throughput assays. On the other hand, the claimed invention provides a fast, efficient and random method for identifying genes essential for growth.

Applicant's arguments have not been found persuasive for the following reasons.

While Villalba *et al* may teach that *impala* 160 induced mutagenesis may not be random in *M. grisea*, they also teach that the *impala* 160 transposon "will be very useful for insertional mutagenesis in fungi", and US 6, 617,163 teaches the use of the *impala* 160 transposon for insertional mutagenesis in *Aspergillus fumigatus*. As mentioned above, Firon *et al* is not being considered because one of skill in the art would not have been aware of the teachings of Firon *et al* at the time of invention. Li Destri Nicosia *et al* teach in Figure 5 that Southern blots show that in all six *yA+* revertants, the transposon (*impala*160) has integrated at different locations of the genome (.p. 1334), which would indicate random integration. It does not appear that these references teach away,

Art Unit: 1636

since random mutagenesis occurs, or the authors of the papers encourage use of impala 160 transposon for insertional mutagenesis.

Again, since Denning et al was used in combination with US 6, 617,163 teaches the use of the impala 160 transposon for insertional mutagenesis in *Aspergillus fumigatus* , the impala 160 transposon was known for use in insertional mutagenesis, and it would have been obvious to combine this reference with Denning et al. Use of the impala 160 transposon needs to provide significant benefits over teachings of Denning et al and US 6, 617,163.

Claim 20 is rejected under 35 U.S.C. 103(a) as being obvious over US 2003/0129733 in view of US 6,617,163 and in further view of Klinner et al. This rejection was mistakenly withdrawn in the prior office action and has been reinstated.

Claim 20 teaches the use of benomyl in the media.

US 2003/0129733 and US 6, 617,163 teach all of the limitations as described above. However they do not teach the use of benomyl in the media. (US 2003/0129733 teaches the use of mitotic inhibitor, fluorophenylalanine.)

Klinner et al (Current Micro. 11: 241-246, 1984, specifically, p. 241) teach using benomyl in the selective medium.

The ordinary skilled artisan, desiring to use benomyl in the medium in a method for locating at least one gene essential for the growth of a haploid fungus, said method comprising the following successive steps: generation of diploid strain from fungal haploid strain mutagenesis of said diploid strain; haploidization of the diploid

Art Unit: 1636

transformant strain, in selection conditions such that the absence of haploid progeny is indicative of mutagenesis occurring in essential gene; wherein said mutagenesis is an *in vivo* transposon mutagenesis, would have been motivated to combine the teachings of US 2003/0129733 of a method of mutating cells for locating at least one gene essential for the growth of a haploid fungus, by generating a diploid strain from a fungal haploid strain, mutagenesis of the diploid strain, and haploidization of the diploid transformant strain, in selection conditions such that the absence of haploid progeny is indicative of mutagenesis occurring in an essential gene, with the teachings of US 6, 617,163 teaching insertional mutagenesis with the *impala 160* transposon, and with Klinner et al teaching using benomyl in the selective medium, because Klinner et al states that benomyl induces haploidization. It would have been obvious to one of ordinary skill in the art to use benomyl because Klinner et al teach that fluorophenylalanine and benomyl induce frequent mitotic segregation. Given the teachings of the prior art and the level of the ordinary skilled artisan at the time of the applicant's invention, it must be considered, absent evidence to the contrary, that said skilled artisan would have had a reasonable expectation of success in practicing the claimed invention.

Allowable Subject Matter

Claims 17 and 19 are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHELE K. JOIKE whose telephone number is (571)272-5915. The examiner can normally be reached on M-F, 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Woitach can be reached on 571-272-0739. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/NANCY VOGEL/
Primary Examiner, Art Unit 1636

Michele K Joike, Ph.D.
Examiner
Art Unit 1636